TO: Kristie Warr

FROM: Rick Haaker, CHP, CIH

SUBJECT: Review of Las Conchas Fire Work Order 11-07001

DATE: 7/19/2011

The data were reviewed for accuracy, completeness, and any apparent issues. During data review a qualifier “UB” was assigned if the activity result is less than five times the activity result of the method blank. A “UB” qualifier denotes that an analyte is non-detect due to lack of activity relative to a blank concentration. Unused filters from the same lot as the sample filters were used as the method blank. The analytes in Table 1 were detected in the method blank, and all samples are affected.

Table 1. Analytes detected or tentatively detected in the method blank and data qualifiers based on the blank.

BlanksWithDetectedOrEstimatedActivity	
Isotope	**Assigned Qualfier**
GROSS ALPHA	J
GROSS BETA	
PU-238	J
PU-239	J
TOTAL SR	
U-234	
U-235	J
U-238	

Data without a UB qualifier was further reviewed.

A “U” was assigned to the Assigned Qualifier column when result was less than 50% of the MDA. In this case the analytical result was assigned to be one-half of the MDA in the "ValidatedResult" column. The validated result should be considered an upper bound estimate in this case.

A “J” was assigned if the result was between 0.5 of the MDA and the MDA. The validated result is the reported result. The validated result represents an estimated value in this case.

A “JH” or “JL” would be based on percent recovery (the "RadioPercentRec", “GravPercentRec” and the “LCSpercentR” columns of the Eberline Services report. Recoveries below 70% would result in a JL to denote the result is estimated with a low bias. Recoveries above 130% would result in assignment of a JH to denote that the result is estimated with a high bias.

Table 2 lists samples that exhibited percent recoveries outside of the acceptance range. These samples all carried a “U” or “UB” qualifier.

Table 2. Samples with recoveries outside of the acceptance range.

NonAcceptanceRecoveries		
Isotope	**ClientID**	**RadioPercentRec**
PU-238	A005-110628-ST01	68.04
PU-238	A002-110629-ST02	69.69
PU-239	A005-110628-ST01	68.04
PU-239	A002-110629-ST02	69.69

The assigned data qualifiers are found in column “AssignedQualifier”.

The effective air volume for the various analytes of the various air samples in cubic meters are provided in the column “AliquotNetEquiv”.

Note that the blank results are in pCi/m^3. The volume that Eberline Services assigned to the blanks for a given analyte are the average of the effective volumes for the samples in the sample set for that analyte.

Air volumes that were collected in this sample set tend to be lower than ideal for environmental samples, being in the range of 5 to 78 cubic meters.

The period of time between collection of air samples and gross alpha/beta counting was short, ranging from two to three days, so those results are likely to include an activity contribution due to the presence of radon daughters.

The initial EDD provided by Eberline Services contained self-contradictory sample dates and some did not agree with the collection dates provided on the chain of custody No: 6-063011-172300-0001. Some samples had two different sample dates listed in the EDD as indicated in Table 3. I understand that these were corrected by Weston Solutions at the time the data was loaded into SCRIBE, or by issue of a revised EDD by Eberline Services.

Table 3. List of Samples and Sample Dates.

SampleDates	
ClientID	SampleDate
A001-110629-ST02	6/28/2011
A001-110629-ST02	6/29/2011
A003-110629-ST02	6/28/2011
A003-110629-ST02	6/29/2011
A005-110629-ST02	6/28/2011
A005-110629-ST02	6/29/2011
A006-110629-ST02	6/28/2011
A006-110629-ST02	6/29/2011

Per an email exchange with the sample team leader, two corrections are needed to the chain of custody: "A001-110628-2281-ST01" should be changed to "A002-110628-2281-ST01", and its sample location should be changed to A002.

In addition the sampling team leader confirmed that sample "A001-110629-ST02" was collected at location A003.

No other discrepancies were found in the transcription of sample IDs or sample volumes from the chain of custody to the EDD.